

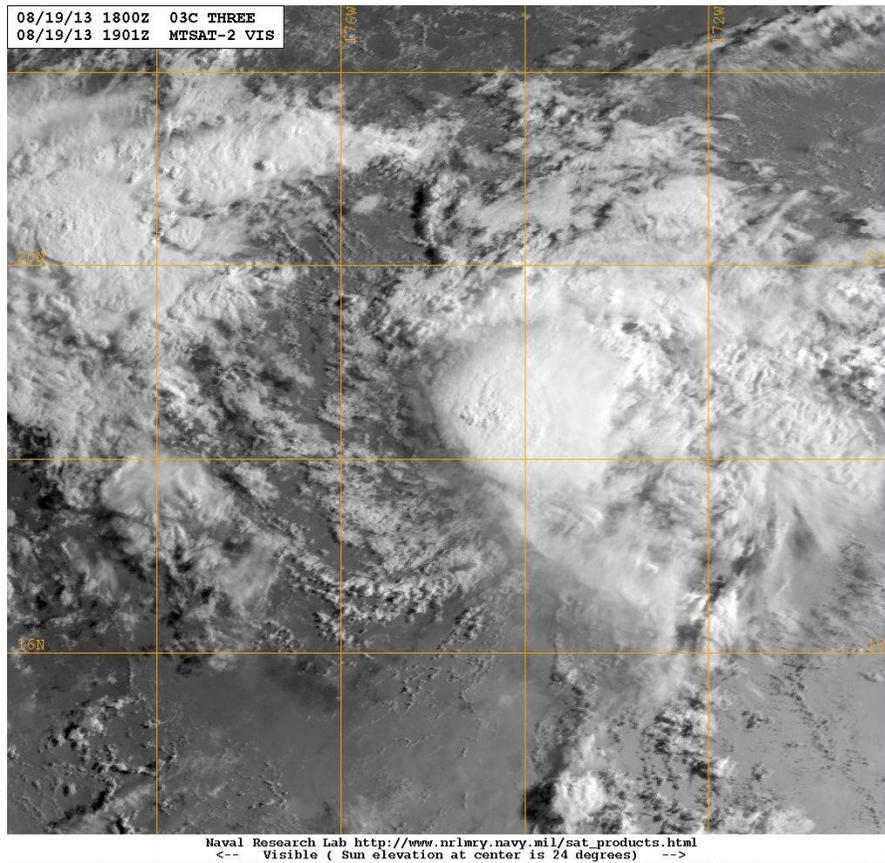


# CENTRAL PACIFIC HURRICANE CENTER TROPICAL CYCLONE REPORT

## TROPICAL DEPRESSION THREE-C (CP032013)

19 – 20 August 2013

Sam Houston  
Central Pacific Hurricane Center  
2 February 2015



MTSAT VISIBLE SATELLITE IMAGE OF TROPICAL DEPRESSION THREE-C AT 1901 UTC 19 AUGUST 2013  
(COURTESY OF THE NAVAL RESEARCH LABORATORY).

# Tropical Depression Three-C

19 – 20 AUGUST 2013

## SYNOPTIC HISTORY

Tropical Depression Three-C was the last of a trio of tropical cyclones that were in the far western portion of the Area of Responsibility (AOR) of the Central Pacific Hurricane Center (CPHC) during 16–20 August 2013. The first of these systems was Tropical Storm Pewa, which initially became a Tropical Depression near 9°N 172°W on 16 August 2013. Pewa crossed the International Date Line into the Northwestern Pacific Ocean on 18 August 2013 (note that Pewa continued to intensify over the Northwestern Pacific Ocean, and briefly became a typhoon on 19 August 2013). The second system was Tropical Storm Unala, which developed near 17°N 178°W on 19 August 2013. Unala dissipated the same day just east of the International Date Line.

The tropical disturbance, which eventually became Tropical Depression Three-C, was first identified by the National Hurricane Center (NHC) in Miami, Florida far to the east of CPHC's AOR. An Invest area designated as 92E was first identified near 11°N 116°W by NHC at 0600 UTC 9 August 2013 (see Fig. 1). This system tracked relatively slowly toward the west northwest to the south of the subtropical ridge during the next few days. Eventually, the tropical disturbance became somewhat better organized and a weak surface low developed on 12 August. However, the lack of deep convection and the poor organization of the system precluded it being designated a tropical cyclone by NHC. This disorganized weak surface low crossed longitude 140°W into CPHC's AOR around 1200 UTC on 14 August. Within 18 hours, the surface low could no longer be identified using satellite imagery, so the system became a weak tropical disturbance that continued to track west northwestward at about 10 knots south of the subtropical ridge.

Even though CPHC was no longer producing a real-time working best track for this tropical disturbance (i.e., Invest 92E) after 1800 UTC on 15 August, the system continued to be monitored for signs of redevelopment over the next couple of days. The tropical disturbance was identified as a surface trough in the routine High Seas Bulletins issued at 6-hour intervals by the Honolulu Forecast Office (HFO). Using these text bulletins, combined with satellite images provided by the Cooperative Institute for Meteorological Satellite Studies (CIMSS) at the University of Wisconsin-Madison, the track of former Invest 92E was reconstructed for the approximately 2-day period prior to CPHC starting a new Invest 92C (note that the designation of the Invest area as 92C was purely coincidental, since CPHC uses its own rotating list of Invest designation numbers, and 92C was the next identifier in the series) for the same system at 1200 UTC 18 August. The clouds and thunderstorms associated with Invest 92C continued to become better organized, and the system was classified as Tropical Depression Three-C by CPHC at 1800 UTC on 19 August (see Fig. 2). The best track positions and intensities for Tropical Depression Three-C are listed in Table 1. The organization of Three-C did not increase during the next 24 hours before it crossed the International Date Line into the AOR of the Japan Meteorological Agency in Tokyo, Japan and the Joint Typhoon Warning Center (JTWC) in Honolulu, Hawaii. Therefore, Three-C was never named a Tropical Storm. In fact, this tropical cyclone dissipated soon after it moved west across

longitude 180°W due to increased environmental vertical wind shear caused by its close proximity to the outflow from Pewa, which was a tropical storm at that time according to JTWC.

## METEOROLOGICAL STATISTICS

Observations in Tropical Depression Three-C include subjective satellite-based Dvorak technique intensity estimates from CPHC, the Tropical Analysis and Forecast Branch (TAFB) and the Satellite Analysis Branch (SAB), JTWC, and objective Advanced Dvorak Technique (ADT) estimates from CIMSS. Data and imagery from NOAA polar-orbiting satellites including the Advanced Microwave Sounding Unit (AMSU), the NASA Tropical Rainfall Measuring Mission (TRMM), the European Space Agency's Advanced Scatterometer (ASCAT), and Defense Meteorological Satellite Program (DMSP) satellites, among others, were also useful in constructing the best track for Three-C.

## CASUALTY AND DAMAGE STATISTICS

There were no reports of damage or casualties<sup>1</sup> associated with Tropical Depression Three-C.

## FORECAST AND WARNING CRITIQUE

A verification of the CPHC official track forecasts for Tropical Depression Three-C is listed in Table 2. Since Three-C was considered a viable tropical cyclone in the CPHC basin for 18 hours, only two 12-hour track forecasts could be verified. A verification of the CPHC official intensity errors is listed in Table 3. Again, there were only two 12-hour intensity forecasts that could be verified. There were no coastal watches or warnings issued in association with Three-C.

---

<sup>1</sup>



Table 1. Best track for Tropical Depression Three-C, 14-20 August 2013.

Date/Time (UTC)	Latitude (°N)	Longitude	Pressure (mb)	Wind Speed (kt)	Stage
19 / 1800	18.1	174.6W	1008	30	Tropical Depression
20 / 0000	18.8	175.7W	1008	30	“
20 / 0600	18.9	177.3W	1008	30	“
20 / 1200	19.3	178.8W	1008	30	“
20 / 1800	19.8	179.8E	1008	25	“
21 / 0000	Dissipated				

Table 2. Homogeneous comparison of selected track forecast guidance models (in n mi) for Tropical Depression Three-C.

Model ID	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	26.3	n/a	n/a	n/a	n/a	n/a	n/a
OCD5	37.5	n/a	n/a	n/a	n/a	n/a	n/a
HWFI	37.4	n/a	n/a	n/a	n/a	n/a	n/a
TVCA/TVCE	28.7	n/a	n/a	n/a	n/a	n/a	n/a
BAMS	35.0	n/a	n/a	n/a	n/a	n/a	n/a
BAMM	47.6	n/a	n/a	n/a	n/a	n/a	n/a
BAMD	76.8	n/a	n/a	n/a	n/a	n/a	n/a
Forecasts	2	n/a	n/a	n/a	n/a	n/a	n/a

Table 3. Homogeneous comparison of selected intensity forecast guidance models (in kt) for Tropical Depression Three-C. Errors smaller than or equal to the CPHC official forecast are shown in boldface type. Note: there was only one forecast available for the IVCN.

Model ID	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	0.0	n/a	n/a	n/a	n/a	n/a	n/a
OCD5	3.0	n/a	n/a	n/a	n/a	n/a	n/a
HWFI	3.0	n/a	n/a	n/a	n/a	n/a	n/a
DSHP	4.0	n/a	n/a	n/a	n/a	n/a	n/a
IVCN	<b>0.0 (1)</b>	n/a	n/a	n/a	n/a	n/a	n/a
Forecasts	2	n/a	n/a	n/a	n/a	n/a	n/a

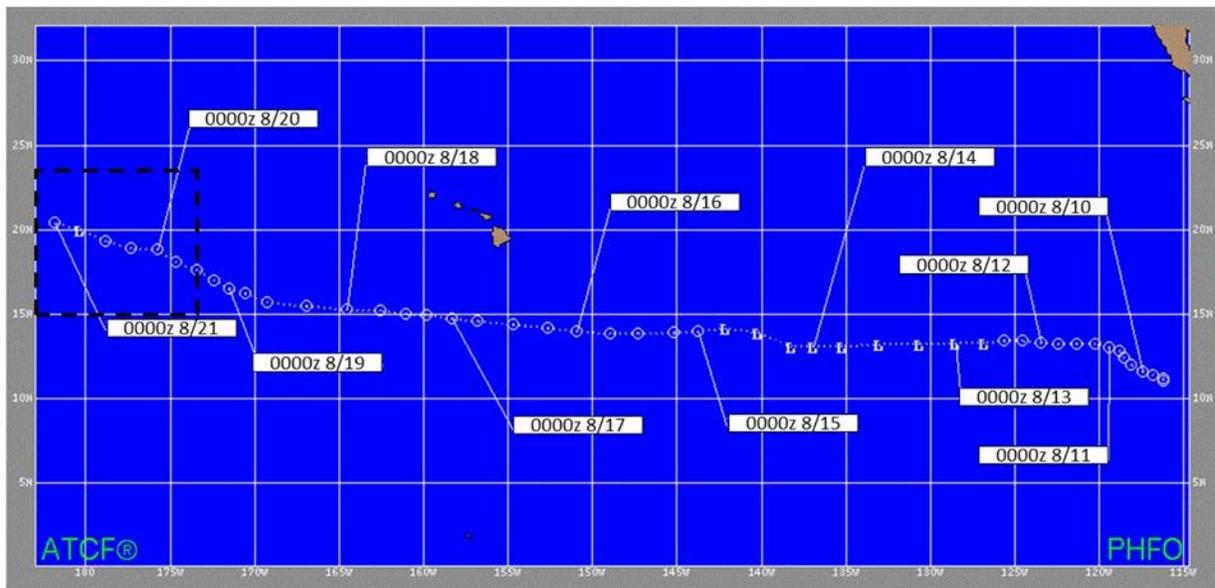


Figure 1. Best track positions for the entire life of Tropical Depression Three-C, including the development stage when it was classified as Invest 92E (by NHC east of 140°W) and Invest 92C (by CPHC west of 140°W), during 9 – 21 August 2013. Note that the last point at 0000z 8/21 indicates when Three-C was declared a tropical disturbance by JTWC soon after it crossed the International Date Line. Note that the dashed box is the approximate geographical area shown in Fig. 2.

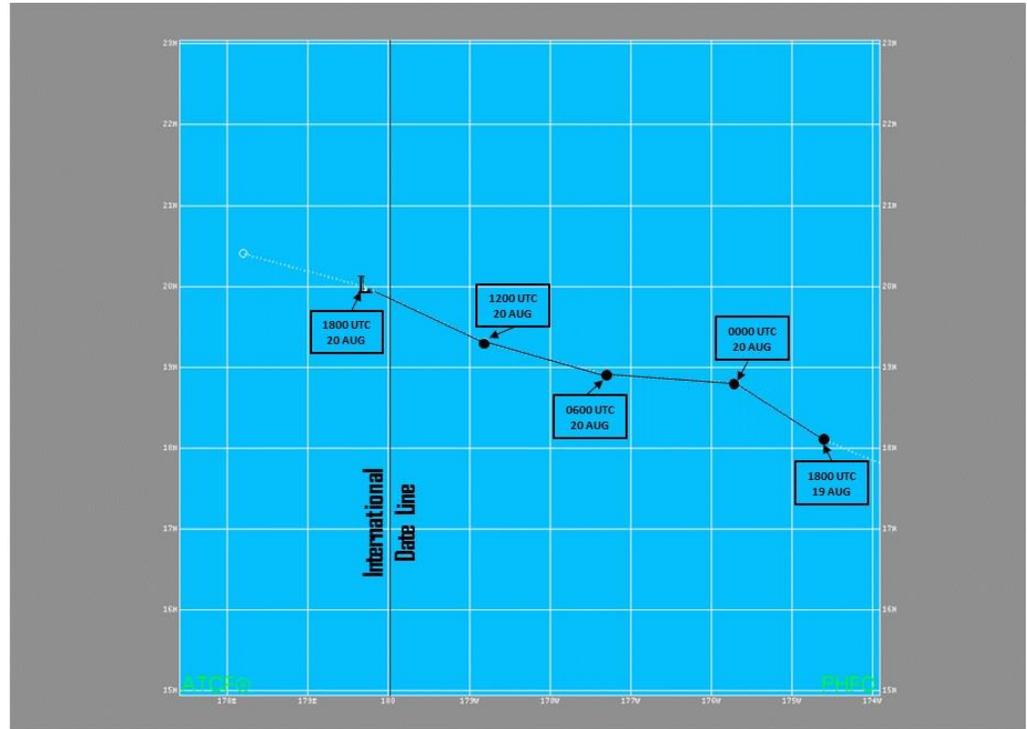


Figure 2. Plot of the best track positions for Tropical Depression Three-C, 19–20 August 2013 listed in Table 1. The portion of the track west of 180° was provided by JTWC.



THIS PAGE INTENTIONALLY LEFT BLANK.